



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,193	02/27/2004	Hiroshi Shinozuka	008312-0308537	4574

909 7590 01/25/2007  
PILLSBURY WINTHROP SHAW PITTMAN, LLP  
P.O. BOX 10500  
MCLEAN, VA 22102

EXAMINER
----------

LAMB, CHRISTOPHER RAY

ART UNIT	PAPER NUMBER
----------	--------------

2627

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/25/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/787,193

Applicant(s)

SHINOZUKA, HIROSHI

Examiner

Christopher R. Lamb

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____                                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/27/04, 4/13/06</u>  | 6) <input type="checkbox"/> Other: ____                           |

**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Objections***

2. Claim 2 objected to because of the following informalities: in line 4, "an non-operating state" should be "a non-operating state." Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 7 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 7:

This claim requires that "the coil is an air-core coil provided on an arbitrary side surface of the magnetic body."

However, the claim is dependent on claim 6. Claim 6 requires that "the coil surfaces are provided with the magnetic body therebetween."

The coil cannot both be provided on the side of the magnetic body, and have the magnetic body between the coil surfaces. These two claims contradict one another.

The Applicant may be trying to claim two separate coils, as the Applicant's disclosed invention has one coil where the coil surfaces are provided with the magnetic

Art Unit: 2627

body therebetween, and a separate coil provided on an arbitrary side surface of the magnetic body. However, as the claims only refer to "the coil," as the claim is written both these limitations must be applied to the same coil.

Regarding claim 16:

It is nearly identical to claim 7 and similarly rejected.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 1, 2, 4, 6, 8, 10, 11, 13, 15, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Kimura et al. (US 6,212,140).

Regarding claim 1:

Kimura discloses:

An optical head apparatus (Fig. 6; column 5, lines 30-50) comprising:

an object lens which condenses light beams onto a recording surface of an information recording medium or the like which records information therein (Fig. 6: 1);

a lens holder which holds the object lens so as to be movable in an optical axis direction of the object lens and a direction parallel to the recording surface of the information recording medium (Fig. 6: 2);

a magnet having surfaces on which an arbitrary magnetic pole is directed in one direction (Fig. 6: 8);

Art Unit: 2627

a coil which has coil surfaces, is provided in the lens holder, and generates a force in accordance with a magnetic field from the magnet in order to move the lens holder at least one of the optical axis direction and the direction parallel to the recording surface (Fig. 6: 3 or 4);

a magnetic body which reduces transmission of the magnetic field from the magnet which acts on the coil (Fig. 6: 30); and

a support member which supports the lens holder so as to be movable in a predetermined direction (Fig. 6: 6).

Regarding claim 2:

In Kimura the coil surfaces of the coil are placed in substantially parallel with an arbitrary magnetized surface of the magnet in a non-operating state (apparent from Fig. 6).

Regarding claim 4:

In Kimura the coil is a coil obtained by winding a wire material around the magnetic body with the predetermined number of turns (the wire coils are visible in Fig. 6: when the system is pieced together, they are wound around the magnetic body 30).

Regarding claim 6:

In Kimura the number of the coil surfaces of the coil is two, and the coil surfaces are provided with the magnetic body therebetween (the coil is wound in a square shape, as shown in Fig. 6, but from the driving perspective there are two surfaces: one facing each magnet.)

Regarding claim 8:

In Kimura the coil is a coil obtained by winding a wire material around the magnetic body with the predetermined number of turns (apparent from Fig. 6).

Regarding claim 10:

Kimura discloses:

An optical head apparatus (Fig. 6) comprising:

an optical head which has an object lens (Fig. 6: 1) which condenses light beams onto a recording surface of an information recording medium or the like which records information therein;

a lens holder which holds the object lens so as to be movable in an optical axis direction of the object lens and a direction parallel to the recording surface of the information recording medium (Fig. 6: 2);

a magnet having surfaces on which an arbitrary magnetic pole is directed in one direction (Fig. 6: 8);

a coil which has coil surfaces, is provided in the lens holder, and generates a force in accordance with a magnetic field from the magnet in order to move the lens holder at least one of the optical axis direction and the direction parallel to the recording surface (Fig. 6: 3 or 4);

a magnetic body which reduces transmission of the magnetic field from the magnet which acts on the coil (Fig. 6: 30); and

a support member which supports the lens holder so as to be movable in a predetermined direction (Fig. 6: 6);

Art Unit: 2627

a photodetector which detects light beams reflected on the recording surface of the recording medium and converts them into an electric signal (column 3, lines 25-50); and

an information processing circuit which reproduces information recorded in the recording medium from the electric signal outputted from the photodetector (column 3, lines 25-50).

Regarding claims 11, 13, 15, and 17:

All elements positively recited have already been identified with respect to earlier claims.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3, 7, 12, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. (US 6,212,140) in view of Yamada et al. (US 5,446,712).

Regarding claim 3:

Kimura discloses a optical head apparatus as discussed above.

In Kimura, it appears from Fig. 6 that the coils 4, provided on an arbitrary side surface of the magnetic body, are air-core coils.

Art Unit: 2627

However, Kimura does not explicitly disclose that "the coil is an air-core coil provided on an arbitrary side surface of the magnetic body."

Yamada discloses an air core coil (column 12, lines 1-15). Yamada discloses that using an air core coil reduces the moment of inertia.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Kimura wherein the coils 4, provided on an arbitrary side surface of the magnetic body, are air-core coils.

The motivation would have been to reduce the moment of inertia, as taught by Yamada.

Regarding claim 7:

This claim has been rejected under 35 U.S.C. 112 as noted above. However, presuming that the Applicant meant for "the coil" of this claim to be separate from "the coil" of claim 6, this claim is rejected for the same reason as claim 3 above.

Regarding claims 12 and 16:

All elements positively recited have been identified with respect to earlier rejections. No further elaboration is necessary.

9. Claims 5, 9, 14, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura in view of Marino et al. (US 5,768,037).

Regarding claim 5:

Kimura discloses an optical head apparatus as discussed above.

Kimura does not disclose "wherein the coil surfaces of the coil are formed into flat shapes on a sheet medium having a predetermined thickness."



Marino discloses wherein the coil surfaces of a coil are formed into flat shapes on a sheet medium having a predetermined thickness (column 3, line 55 to column 4, line 10).

Marino discloses that this can minimize cost (column 4, lines 1-10).

It would have been obvious to one of ordinary skill in the art to include in Kimura wherein the coil surfaces of the coil are formed into flat shapes on a sheet medium having a predetermined thickness (especially given that the type of coil in Kimura is the conventional wound coil Marino compares the flat coil to in column 3, lines 55-67).

The motivation would have been to minimize cost.

Regarding claims 9, 14, and 18:

All elements positively recited have been identified with respect to earlier rejections. No further elaboration is necessary.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 1/19/06

  
WILLIAM KORZUCH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600